



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Patent Application of:

Chen et al.

Application No.: 09/606,367

Filed: June 28<sup>th</sup>, 2000For: DIFFERENTIAL SENSE LATCH  
SCHEME**EXPEDITED PROCEDURE**  
**UNDER 37 CFR 1.116**  
**Art Unit: 2816**

Examiner: Nguyen, H.

*Response*  
*(16)*  
*1/17/02*  
*Smith*  
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**RESPONSE UNDER CFR 1.116**

Box AF  
Honorable Commissioner for  
Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

In response to the Final Office Action, dated August 22<sup>nd</sup>, 2001, please consider the following remarks.

**REMARKS**

The above-referenced patent application has been reviewed in light of the Final Office Action, dated August 22<sup>nd</sup>, 2001, in which: Claims 5, 6 and 11-16 are rejected under 35 U.S.C. 112, second paragraph; claims 1, 3-6 and 11-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi (hereinafter "Takahashi (824)", US Patent No. 6,037,824); claim 10 is rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi (hereinafter "Takahashi (689)", US Patent No. 5,982,689); claim 7 is rejected under 35 U.S.C 103(a) as being unpatentable over Takahashi (824); claims 17-20 are rejected under 35 U.S.C 103(a) as being unpatentable over Takahashi (689) in

further view of Takahashi (824). Reconsideration of the above-referenced patent application in view of the following remarks is respectfully requested.

Claims 1 and 3-24 are now pending the above-referenced patent application. No claims have been cancelled, added, or amended.

The Examiner has rejected claims 5, 6 and 11-16 under 35 U.S.C. 112, second paragraph. The rejection of these claims by the Examiner is respectfully traversed.

According to the Examiner, "Regarding claim 5, the recitation 'a first and second inverter...and an inverted output terminal of said p-type sense amp.' On lines 2-6 is indefinite because it is misdescriptive.

According to figure 5, the first inverter (520) and the second inverter (530) each does not have pull-up and a pull down terminal as claimed."

However, this is not what Figure 5 shows. Figure 5 shows that both inverter 520 and inverter 530 each have a pull-up and pull-down terminal. Inverter 520 has a pull-up terminal coupled to transistor 540, and a pull-down terminal coupled to transistor 570. However, the preceding is just one embodiment, and the claimed subject matter is not limited to just this configuration. It is respectfully asserted that the Examiner has misinterpreted figure 5 and the associated detailed description, and claim 5 is, therefore, in condition for allowance. Claim 6 depends from claim 5, and it is respectfully asserted that claim 6 is, therefore, also in a condition for allowance.

The Examiner has rejected claim 11, stating that "[I]t is unclear how the 'differential circuit is evaluated' and what is to be evaluated. The recitation 'sensing differential output signals via a differential sense circuit' on line 4 is indefinite because it is unclear what 'differential output signals' are to be sensed."

It is respectfully asserted that it is well-known in the art what is meant by the phrase "evaluating said differential circuit". Quoting from the specification, page 4, lines 1-7, "[A]s those of skill in the art would be aware, such electronic signal values are typically produced by such differential and/or dynamic circuitry as a result of an evaluate operation. ... [S]uch a technique typically comprises pre-charging such circuitry, applying input signals to such circuitry and then applying an input electronic

signal, which causes such circuitry to 'evaluate' the input signals and produce a corresponding output signal." It is respectfully asserted that both recitations quoted by the Examiner are adequately described, and one of ordinary skill in the relevant art would know what was and was not covered by the recited claim language. It is well-established that an applicant does not have a duty to describe elements that are well known in the art. Additionally, as stated in *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 3 USPQ2d 1737 (Fed. Cir. 1987), "A patent need not teach, and preferably omits, what is well known in the art." It is respectfully asserted that "evaluating" in this context would be well-known to one skilled in the relevant art, and, therefore, the present application properly omits unnecessary details.

The Examiner has rejected claims 1, 3-6 and 11-16 under 35 U.S.C. 102(e) as being anticipated by Takahashi (824). It is respectfully asserted that the foregoing claims, as amended, are in a condition for allowance.

It is well-established that in order to establish a *prima facie* case of anticipation under 102 of the patent statute, the Examiner must provide prior art document that meets each and every element and limitation of the rejected claim. Therefore, even if a single element or limitation is not met by the asserted document, then the Examiner has not succeeded in establishing a *prima facie* case.

Applicants begin with claim 1. Claim 1 recites:

" A circuit comprising:

a differential sense circuit;

a latch;

said differential sense circuit and said latch being coupled so as to form a differential sense latch such that, in operation, an electronic signal stored in said latch is retained for at least one clock cycle, wherein said differential sense circuit is coupled to said latch in a push-pull configuration."

According to the Examiner, "Regarding claim 1, figure 7 of Takahashi shows a circuit comprising: a differential sense circuit (210, 220, 231); a latch (233); said differential sense circuit and said latch being coupled so as to form a differential sense latch such that, in operation, an electronic

signal stored in the latch is retained for at least one clock cycle, wherein said differential sense circuit is coupled to said latch in a push-pull (P31, N31, P32, N32)."

However, contrary to the Examiner's opinion, Takahashi (824) does not recite all of the elements of claim 1. As just an example, Takahashi (824) does not disclose a latch as claimed and described by Applicants. Figure 7 of Takahashi (824) discloses a latch consisting of cross-coupled NAND gates. This latch configuration was disclosed by Applicants as prior art in the detailed description page 5, lines 4-12. It is respectfully asserted that not only has the Examiner not made a *prima facie* case of anticipation under 102 of the patent statute, but that the latch as claimed and described by Applicants solves a problem inherent in the design disclosed in Takahashi (824). It is respectfully asserted that the cited patent clearly fails to meet each and every element and limitation of claim 1, and the allowance of claim 1 is respectfully requested.

Claims 3-6 depend upon and include all limitations of claim 1, and patentably distinguish from Takahashi (824) for at least the same reasons as claim 1. It is, therefore, respectfully asserted that claims 3-6 are in a condition for allowance.

Claim 11 patentably distinguishes from the cited patent for at least reasons similar to claim 1. It is, therefore, respectfully asserted that claim 11 is in a condition for allowance.

Claims 12-16 depend from and include all limitations of claim 11. It is respectfully asserted that claims 12-16 patentably distinguish from Takahashi (824) for at least the same reasons as claim 11, and are, therefore, in a condition for allowance.

The Examiner has rejected claim 10 under 35 U.S.C. 102(e) as being anticipated by Takahashi (689). Applicants are unable to find the differential circuit and specific components cited by the Examiner in Figure 7 of Takahashi (689). It is respectfully requested that either clarification be provided, or the rejection to claim 10 be withdrawn.

The Examiner has rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over Takahashi (824). The rejection of claim 7 by the Examiner is respectfully traversed.

According to the Examiner, "[F]igure 7 of Takahashi (824) includes all of the limitations of the present invention except for the limitation that the sense amplifier comprises an n-type sense amplifier.

However, it is well known in the art that the n-type or the p-type sense amplifier is used depending on the selection of supply voltages to make them conductive. Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to use the n-type sense amplifier to conform to the 'high level' input signals." However, the elements of the Takahashi (824) patent cited by the Examiner fail to make a *prima facie* case of obviousness under the patent statute.

It is well-known that in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, the Examiner must show a suggestion or motivation, either in the references themselves or in knowledge generally available to one of ordinary skill in the art, to modify a prior art reference or combine two or more prior art references. Second, the Examiner must show a reasonable expectation of success in making this combination or modification. Third, the Examiner must show that the combination or modification, if proper, contains all of the elements of the application under examination. If any of these elements are not met, the Examiner has failed to establish a successful *prima facie* case of obviousness. It is respectfully asserted that the Examiner has failed to establish a *prima facie* case of obviousness in regard to this claim.

As just an example, the Takahashi (824) patent fails to recite all of the elements of claim 1. As stated previously, Takahashi (824) does not disclose a latch as claimed and described by Applicants. Figure 7 of Takahashi (824) discloses a latch consisting of cross-coupled NAND gates. It is respectfully asserted that the Examiner has not cited a prior art document that contains all of the elements of claim 7, even when combined with knowledge generally available to one skilled in the art. Therefore, claim 7 is in condition for allowance.

The Examiner has rejected claims 17-24 under 35 U.S.C. 103(a) as being unpatentable over Takahashi (689) further in view of Takahashi (824). The rejection of these claims by the Examiner is respectfully traversed.

According to the Examiner, "[F]igure 1 of Takahashi (689) show an integrated circuit (IC) comprising: a plurality of data paths, at least one of said data paths comprising: a differential circuit (SA) and a differential sense latch (CELL, M31, M41, M11, M21), wherein said differential sense latch comprises a differential sense circuit (M31, M41, M11, M21) and a jam-latch (CELL) coupled such that,

in operation, an electronic signal based, at least in part, on differential output terminals of said differential circuit is stored in said jam-latch; not disclosed is the differential sense circuit is coupled to said jam-latch in a push-pull configuration. Figure 7 of Takahashi (824) teaches a differential circuit (210), and a differential sense latch (231, 232, 233) wherein the differential sense circuit (231, 232) is coupled to the latch (233) in a push-pull configuration...”

Contrary to the Examiner’s opinion, the cited patents do not establish a *prima facie* case of obviousness, or even show or describe all of the elements of the rejected claims. As just an example, and as stated previously, Takahashi (824) does not disclose a latch as claimed and described by Applicants. Additionally, Takahashi (689) also does not disclose a latch as claimed and described. The latch as claimed and described by Applicants solves a problem inherent in the design disclosed in Takahashi (824). It is respectfully asserted that even if the combination of Takahashi (689) with Takahashi (824) were proper, although Applicants believe that it is not, it would still fail to meet all of the elements of the rejected claims. Therefore, it is respectfully asserted that claims 17-24 are in a condition for allowance.

CONCLUSION

In view of the foregoing, it is respectfully asserted that all claims in this application are in condition for allowance. If the Examiner has any questions, he is invited to contact the undersigned at (503) 264-9427. Reconsideration of this patent application and early allowance of all the claims, as amended, is respectfully requested.

Respectfully submitted,



Howard A. Skaist  
Senior Intellectual Property Attorney  
Reg. No. 36,008

Dated:

11/30/01

c/o Blakely, Sokoloff, Taylor & Zafman, LLP  
12400 Wilshire Blvd., Seventh Floor  
Los Angeles, CA 90025-1026  
(503) 264-0967

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12-03-01

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<b>TRANSMITTAL FORM</b> <i>(to be used for all correspondence after initial filing)</i>		Application No.	09/606,367
		Filing Date	June 28, 2001
		First Named Inventor	Feng Chen
		Group Art Unit	2816
		Examiner Name	Nguyen, H.
Total Number of Pages in This Submission	11	Attorney Docket Number	42390P8530

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form  <input checked="" type="checkbox"/> Fee Attached  <input checked="" type="checkbox"/> Amendment / Response  <input checked="" type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s)  <input checked="" type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Response to Missing Parts/ Incomplete Application   <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application)  <input type="checkbox"/> Drawing(s)  <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition  <input type="checkbox"/> To Convert a Provisional Application  <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address  <input type="checkbox"/> Terminal Disclaimer  <input type="checkbox"/> Small Entity Statement  <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication to Group  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter  <input checked="" type="checkbox"/> Additional Enclosure(s) (please identify below): <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Check for \$110.00</div>
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Kerry D. Tweet, Reg. No. 45,959 BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Signature	
Date	December 3, 2001

CERTIFICATE OF MAILING/TRANSMISSION			
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Typed or printed name	Angie C. Farr		
Signature		Date	December 3, 2001

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**FEE TRANSMITTAL  
for FY 2000**

Patent fees are subject to annual revision.

**TOTAL AMOUNT OF PAYMENT** (\$) **110.00****Complete if Known**

Application No.	09/606,367
Filing Date	June 28, 2001
First Named Inventor	Feng Chen
Examiner Name	Nguyen, H.
Group/Art Unit	2816
Attorney Docket No.	42390P8530

**METHOD OF PAYMENT (check one)**

- 1.
- ☒
- The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

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02-2666

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Blakely, Sokoloff, Taylor &amp; Zafman LLP

- ☒
- Charge Any Additional Fee(s) Required
- 
- Under 37 CFR §§ 1.16, 1.17, 1.18 and 1.20.

☐ Applicant claims small entity status.  
See 37 CFR 1.27.

- 2.
- ☒
- Payment Enclosed:**

☒ Check ☐ Credit card ☐ Money  
Order ☐ Other**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
101	740	201	370	Utility filing fee	
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

**SUBTOTAL (1)** (\$) **2. EXTRA CLAIM FEES**

Total Claims	Extra Claims	Fee from below
23	**	X
3	**	X

Multiple Dependent

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple Dependent claim, if not paid
109	84	209	42	**Reissue independent claims over original patent
110	18	210	9	**Reissue claims in excess of 20 and over original patent

**SUBTOTAL (2)** (\$) 

\*\*or number previously paid, if greater, For Reissues, see below

**FEE CALCULATION (continued)****3. ADDITIONAL FEE****Large Entity Small Entity**

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee cover sheet.	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for <i>ex parte</i> reexamination	
112	920*	112	920*	*Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	*Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	110.00
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

Other fee (specify) \_\_\_\_\_

\* Reduced by Basic Filing Fee Paid

**SUBTOTAL (3)** (\$) **110.00****SUBMITTED BY****Complete (if applicable)**

Name (Print/Type)	Kerry D. Tweet	Registration No. (Attorney/Agent)	45,959	Telephone	(503) 684-6200
Signature		Date	12/03/01		

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